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10/521,004	01/07/2005	Kentaro Nagata	24530-005	4860

EXAMINER		
SANDY, ROBERT JOHN		

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3677	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/521,004

Applicant(s)

NAGATA, KENTARO

Examiner

Robert J. Sandy

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7-10,12-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-10,12-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>approved drawing sheets</u> . |

DETAILED ACTION

This is a **final** Office action responsive to the reply filed on 07 September 2007.

- Claims 1, 2, 9, 10, and 18 have been amended.
- Claims 3, 6, 11 and 15 have been canceled.
- Claims 19 and 20 have been added.
- Claims 1, 2, 4, 5, 7-10, 12-14 and 16-20 are pending.

Drawings

The drawings were received on 07 September 2007. These drawings are approved.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4, 5, 7-9, 13, 14, and 16-18, are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. Claim 1 fails to set forth the purpose/function of the "pattern of projections and depressions" with respect to the claimed invention, where recitation of "a pattern of projections and depressions is formed on the inner surface and the outer surface of each of the band main body, the lever plate, and the lever-plate fixing member, the depth of each depression being 2 μ m to 30 μ m" provides no criticality in the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5, 7-9, 14, 16, 17, and 18, so far as definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno et al. (U. S. Patent No. 4,701,982) in view of Donley (U. S. Patent No. 4,660,870).

Concerning claims 1, 2, 5, 9, 14, and 18, Masuno et al. ('982) discloses a tightening band (10) comprising: a band main body (12) including a ring portion (16) formed by bending a metallic ("spring steel, stainless steel", col. 2, line 28) elongated band plate (18) and a band protrusion (20) formed by overlapping and welding (i.e., "spot welded", col. 3, line 21) a predetermined length of both end portions of the metallic elongated band plate such that the both end portions face each other; a lever plate (14) whose top side is protruded outward from the top of the band protrusion and which is fixed to the band protrusion by being welded ("spot welded", col. 3, line 21) thereto such that the end side of the lever plate is in contact with the outer periphery of the ring portion of the band main body; and a lever-plate fixing member (38) which is fixed to the band main body by being welded ("spot welded", col. 3, line 36) thereto so as to fix the top portion of the lever plate to the band main body, the diameter of the ring portion of the band main body being reduced by tilting the lever plate until the surface of the lever plate is brought into contact with the outer periphery of the ring portion of the band main body while the end side of the lever plate serving as the fulcrum, so as to apply a tightening force to a plastic material member or a rubber material member to be tightened, and (concerning claims 9 and 18) the member to be tightened is a protective cover for protecting a joint of a rotary shaft (see Fig. 6) of an automobile.

However, Masuno et al. ('982) does not show wherein a pattern of projections and depressions is formed on the inner surface and the outer surface of each of the band main body,

the lever plate, and the lever-plate fixing member, the depth of each depression being 2 μm to 30 μm ” provides no criticality in the claimed invention.

Donley ('870) teaches an analogous tightening band having a mesh pattern of projections and depressions in the manner defined as “knurling” (108, Fig. 12). Therefore, in view of the teaching of Donley ('870), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a pattern of projections and depressions in the form of knurling as a surface treatment formed on the surface of each of the band main body, the lever plate, and the lever-plate fixing member, since Donley ('870) states having the having the knurling on the inner surface of the clamp band being “to more effectively grip the clamped object. Furthermore, in view of the teaching by Donley ('870), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the knurling to the inner and outer surfaces of each of the band main body, the lever plate, and the lever-plate fixing member, in order to provide a better gripping surface by a user handling the tightening band, and a gripping surface in contact with the band.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed each depression encompassed in the knurling taught by Donley ('870), by having each depression a depth of 2 μm to 30 μm since it is within routine skill in the art to select sizes of structural features of a device for their desired purpose.

Concerning claims 7, 8, 16 and 17, Matsuno et al. ('982), as modified by Donley ('870), make obvious the claimed tightening band, except for including the features wherein the pattern formed on the surface comprises a plurality of types of patterns, and each type of pattern represents identification information of a boot fixing band on which the pattern of the type is formed. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the tightening band of Matsuno et al. ('982), as modified by Donley ('870), to include the features wherein the pattern formed on the surface comprises a plurality of types of patterns in one tightening band, and wherein the pattern formed on the surface comprises a plurality of types of patterns, and each type of pattern represents identification information of a boot fixing band on which the pattern of the type is formed, for the aesthetic design choice, to

which the aesthetic design choice does not structurally enhance the structural performance of the tightening band.

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno et al. ('982), as modified by Donley ('870), and further in view of Armbruster et al. (U. S. Patent No. 4,203,020). Matsuno et al. ('982), as modified by Donley ('870), further discloses when fixing for forming the band protrusion, fixing between the band protrusion and the lever plate, or fixing between the band main body and the lever-plate fixing member is performed by welding (as stated above). However, Matsuno et al. ('982), as modified by Donley ('870), does not describe wherein the pattern of projections and depressions is formed at least so that each member to be welded contacts each other at many points inside the diameter of a spot to be welded.

Armbruster et al. ('020) teaches a method of welding two metallic object to one another by providing "a pattern and protrusions 14", for the purpose by which "The points of the protrusions serve to concentrate the current density and the local pressure, causing the nickel layer to melt and insuring the strength of the welded joint" (col. 2, lines 60-63). Therefore, in view of Armbruster's et al. ('020) teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have recognized the additional benefit of having the pattern of projections and depressions representative of the knurled surfaces suggested by Donley ('870), in order to provided stronger spots welds to the tightening band of Matsuno et al. ('982).

Claims 10, 12, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno et al. ('982), as modified by Donley ('870), and Armbruster et al. (U. S. Patent No. 4,203,020), and further in view of Sheu et al. (U. S. Patent No. 5,025,547) and Jansen et al. (U. S. Patent No. 4,896,402).

Matsuno et al. ('982), as modified by Donley ('870) and Armbruster et al. (U. S. Patent No. 4,203,020), make obvious the claimed tightening band, as set for the above in the Office action. However, Matsuno et al. ('870) does not explicitly describe a method of producing the

tightening band, wherein the method comprises: forming the pattern of projections and depressions, the difference between the projections and depressions being 2 μm to 30 μm , on reduction rolls used in at least one of rolling steps of rolling each metallic plate as a base material of the band main body, the lever plate, and the lever-plate fixing member; forming the pattern of projections and depressions having a depth of 2 μm to 30 μm on the inner and outer surfaces of the metallic plate by passing the metallic plate through the reduction rolls; and cutting the rolled base material into plates for the band main body, the lever plate, and the lever-plate fixing member, so as to produce the tightening band by using the cut plates with the pattern for the band main body, the lever plate, and the lever-plate fixing member; and bending the cut plate with the pattern for the band main body into a ring shape so that the pattern is placed on the inner periphery thereof, so as to form the band main body.

Sheu et al. ('547) teaches a method of making a surface texture on metal strips by reduction rolling demonstrated in Fig. 1. Jansen et al. ('402) makes it known to produce a tightening band (20) by cutting a rolled metal sheet into individual bands (Fig. 15). Therefore, in view of tightening band structure made obvious by Matsuno et al. ('982), as modified by Donley ('870) and Armbruster et al. ('020), and each of the methods taught by Sheu et al. ('547) and Jansen et al. ('402), it would have been obvious to have produced the tightening band of Matsuno et al. ('982) by forming the pattern of projections and depressions, the difference between the projections and depressions being 2 μm to 30 μm , on reduction rolls used in at least one of rolling steps of rolling each metallic plate as a base material of the band main body, the lever plate, and the lever-plate fixing member; forming the pattern of projections and depressions having a depth of 2 μm to 30 μm on the inner and outer surfaces of the metallic plate by passing the metallic plate through the reduction rolls; and cutting the rolled base material into plates for the band main body, the lever plate, and the lever-plate fixing member, so as to produce the tightening band by using the cut plates with the pattern for the band main body, the lever plate, and the lever-plate fixing member.

Concerning claim 12, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to have provided the reduction rolls to include a plurality of types of reduction rolls so that the pattern differs from one reduction roll to another,

and any reduction rolls can be arbitrarily selected from among the reduction rolls and used in the rolling step, since swapping-out and/or retrofitting manufacturing tooling to accommodate accessory changes of a production run of a product line of articles is a well known expedient in manufacturing where cost are minimized.

Response to Arguments

Applicant's arguments filed 09/07/2007 have been fully considered but they are not persuasive. Applicant's remarks pertaining to the rejection under 35 USC §112, 2nd paragraph, indicated in the prior Office action, is acknowledge. However, applicant states on page 12 of the filed response that "Independent claims 1 and 2 have been amended to specify that the pattern of projections and depressions is formed on the inner and outer surfaces (inner and outer periphery as recited in claim 2). Support for these amendments is clearly shown in Figure 1 of the drawings and the description in the application as filed. Since claims 1 and 2 recite sufficient structural features including, among other things, a pattern of projections and depressions, it is submitted that the requirements of 35 USC 112, second paragraph, are satisfied. For completeness sake, however, a few of the purposes/functions of the pattern of projections and depressions is to widen the applicable range of the diameter of the member to be tightened by the tightening band, and increasing of frictional resistance, as discussed at least in the application at page 10, lines 10-17 and line 24 to page 11, line 5. It is requested that the rejection of claims 1, 2, 5-9 and 14-18 under 35 USC 112, second paragraph, be withdrawn." The claims do not reflect applicant's remarks and corresponding disclosed subject matter pertaining to "the purposes/functions of the pattern of projections and depressions is to widen the applicable range of the diameter of the member to be tightened by the tightening band, and increasing of frictional resistance, as discussed at least in the application at page 10, lines 10-17 and line 24 to page 11, line 5." Therefore, applicant has not corrected the claims for completeness.

Applicant's remarks pertaining to the rejections of the claims under §103 have been considered, but are not persuasive, in view of the obviousness as set forth in this Office action.

Conclusion


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Sandy whose telephone number is 571-272-7073. The examiner can normally be reached on M-F (7:30-4:00).

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ROBERT J. SANDY
PRIMARY EXAMINER

Robert J. Sandy
Primary Examiner
Art Unit 3677

5/7
Replacement Sheet
Fig. 6

Prior Art

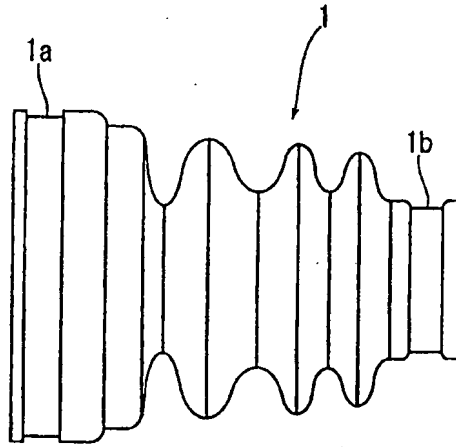
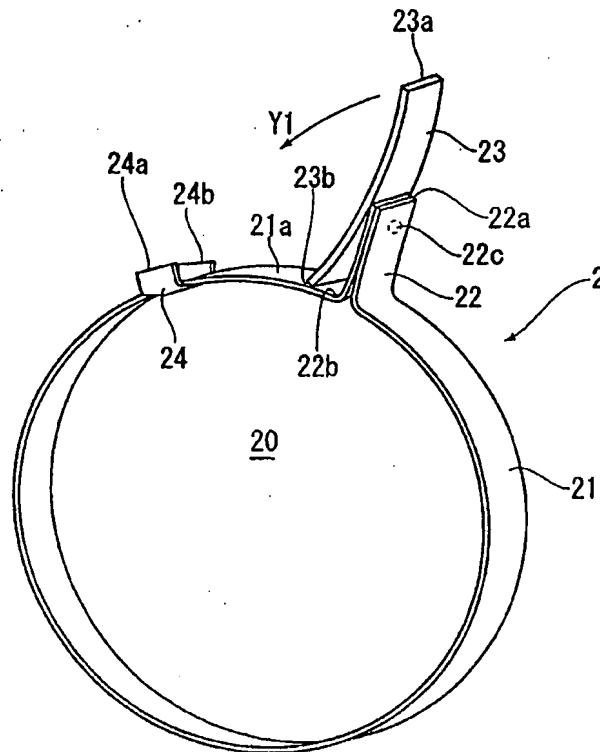


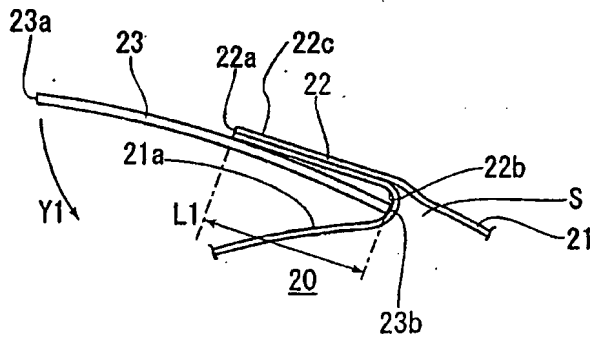
Fig. 7

Prior Art



Approved: *[Signature]*

Prior Art



7/7
Replacement Sheet
Fig. 9

Prior Art

